

WHAT IS CLAIMED IS:

1. A three-dimensional cell culture method comprising constructing a three-dimensional tissue by stacking cells flat-cultured on a permeable sheet on other flat-cultured cells together with said permeable sheet.
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2. The three-dimensional cell culture method of claim 1 wherein the cultured cells are originated from any one of a solid organ, an epithelial tissue, or a muscular tissue.
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3. The three-dimensional cell culture method of claim 2 wherein the cultured cells are originated from a liver.
- 15 4. The three-dimensional cell culture method of claim 3 wherein the cultured cells comprise primarily small hepatocytes.
- 20 5. The three-dimensional cell culture method of claim 3 or 4 wherein a bile canaliculus is formed in the three-dimensional tissue.
- 25 6. A three-dimensional tissue constructed by stacking cells flat-cultured on a permeable sheet on other flat-cultured cells together with said permeable sheet.
- 30 7. The three-dimensional tissue of claim 6 wherein the cultured cells are originated from any one of a solid organ, an epithelial tissue, or a muscular tissue.
8. The three-dimensional tissue of claim 7 wherein the cultured cells are originated from a liver.
- 35 9. The three-dimensional tissue of claim 8 wherein the cultured cells comprise primarily small hepatocytes.
10. The three-dimensional tissue of claim 8 or 9 wherein a

bile canaliculus is formed in said three-dimensional tissue.

11. An artificial organ constructed from the three-dimensional tissue of any one of claims 6 - 10.

5 12. A cell culture method of flat-culturing cells on a permeable sheet comprising defining the colony form of the cultured cells by controlling the position of a pore in said permeable sheet.

10 13. A three-dimensional cell culture method comprising constructing a three-dimensional tissue by stacking cultured cells cultured by the cell culture method of claim 12 on other flat-cultured cells together with the permeable sheet.

15 14. A tissue transplantation method comprising transplanting the three-dimensional tissue of any one of claims 6 - 10 into a living body of a non-human vertebrate.